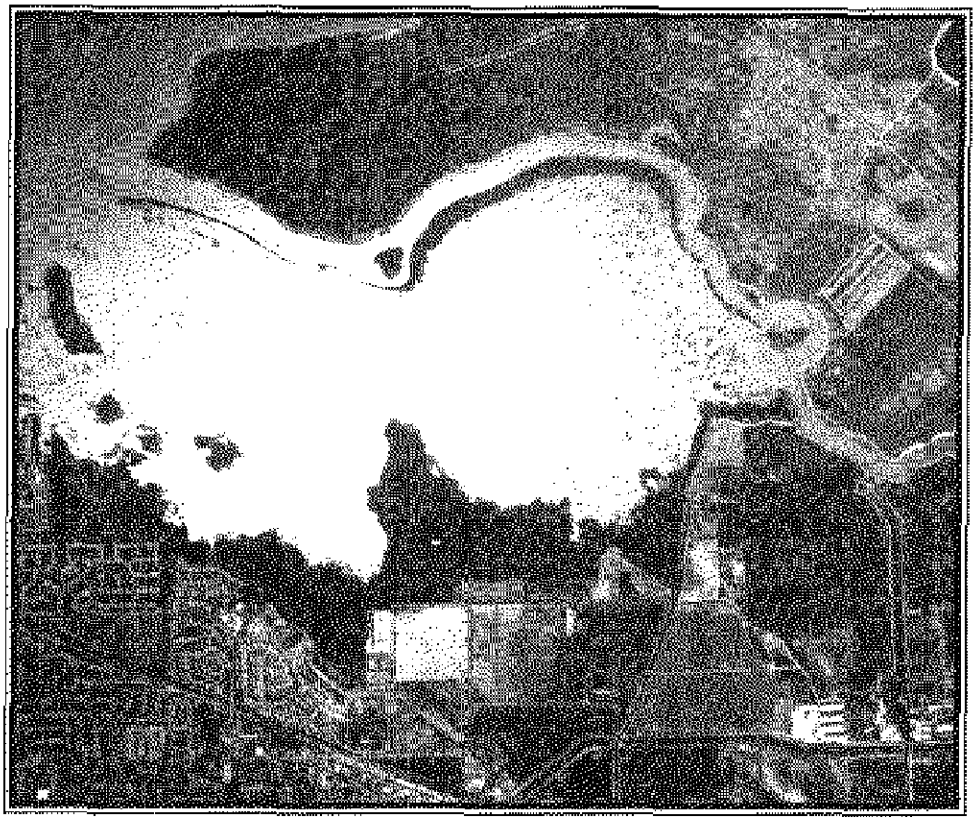
H1016

THE

DELTA SCIENCE CENTER

AT BIG BREAK



THE VIRTUAL SCIENCE CENTER & HANDS-ON LEARNING PROGRAMS

MAY 1998 · ECOSYSTEM RESTORATION PROJECTS AND PROGRAMS · CALFED BAY-DELTA PROGRAM

ENVIRONMENTAL EDUCATION

I —012682

I-012682

Attachment H

COVER SHEET (PAGE 1 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: The Virtual Science Center and Hands-on Learning Programs
Applicant Name: THE DELTA SCIENCE CENTER at Big Break
Mailing Address: 86 Orchard Estates Drive, Walnut Creek, CA 94598
Telephone: (925) 947-1473
Fax: (925) 947-1473

Amount of funding requested: $ 54,000 for 2 years

Indicate the Topic for which you are applying (check only one box). Note that this is an important decision: see page __ of the Proposal Solicitation Package for more information.

- ☐ Fish Passage Assessment
- ☐ Fish Passage Improvements
- ☐ Floodplain and Habitat Restoration
- ☐ Gravel Restoration
- ☐ Fish Harvest
- ☐ Species Life History Studies
- ☐ Watershed Planning/Implementation
- ☒ Education
- ☐ Fish Screen Evaluations - Alternatives and Biological Priorities

Indicate the geographic area of your proposal (check only one box):

- ☐ Sacramento River Mainstem
- ☐ Sacramento Tributary: _____
- ☒ Delta
- ☐ East Side Delta Tributary: _____
- ☐ Suisun Marsh and Bay
- ☐ San Joaquin Tributary: _____
- ☐ San Joaquin River Mainstem
- ☐ Other: _____
- ☐ Landscape (entire Bay-Delta watershed)
- ☐ North Bay: _____

Indicate the primary species which the proposal addresses (check no more than two boxes):

- ☐ San Joaquin and East-side Delta tributaries fall-run chinook salmon
- ☐ Winter-run chinook salmon
- ☐ Spring-run chinook salmon
- ☐ Late-fall run chinook salmon
- ☒ Fall-run chinook salmon
- ☐ Delta smelt
- ☐ Longfin smelt
- ☒ Splittail
- ☐ Steelhead trout
- ☐ Green sturgeon
- ☐ Striped bass
- ☐ Migratory birds

COVER SHEET (PAGE 2 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Indicate the type of applicant (check only one box):

☐	State agency	☐	Federal agency
☐	Public/Non-profit joint venture	☒	Non-profit
☐	Local government/district	☐	Private party
☐	University	☐	Other: _____

Indicate the type of project (check only one box):

☐	Planning	☐	Implementation
☐	Monitoring	☒	Education
☐	Research		

By signing below, the applicant declares the following:

(1) the truthfulness of all representations in their proposal;

(2) the individual signing the form is entitled to submit the application on behalf of the applicant (if applicant is an entity or organization); and

(3) the person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section II.K) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

Stephen Barbata

(Signature of Applicant)

II. EXECUTIVE SUMMARY

a. The Virtual Science Center and Hands-on Learning Programs
THE DELTA SCIENCE CENTER at Big Break

b. The project is to build a web site based upon two plus years of privately funded and ongoing Delta Science Center (DSC) programs. The programs are both student-based and professional collections of baseline data focused on Big Break Lagoon and its Marsh Creek watershed in the western Delta. Our concept is to create a virtual science center via the internet that informs and monitors Big Break as a microcosm of the larger Delta. Our location and the physical attributes of the site offer unprecedented opportunities for educating the public about the Bay-Delta estuary, the efforts to restore it and the personal role of citizens' opportunities and responsibilities.

This education effort is part of the Science Center's mission to create a comprehensive program of restoration, research and education at Big Break. Our three-fold approach represents regional stakeholders, including Contra Costa County, the East Bay Regional park District, Contra Costa Water District, Contra Costa Community College District, California State University at Hayward, Contra Costa County Office of Education, Contra Costa Mosquito and Vector Control District, Emerson Dairy, Pacific Gas and Electric Company, the Sierra Club and Audubon Society.

The project links hands-on learning for students from kindergarten through graduate school to a collection and distribution point on the internet. It focuses student and professional scientific baseline work on shallow-water habitat, riparian forest, seasonal wetlands, agricultural wetlands and dune scrub habitat. Primary species addressed include all runs of salmon, delta smelt, steelhead and splittail. The site and focus also include several species of migratory birds including Swainsons' Hawk, California Black Rail, and Greater Sandhill Crane. In addition to the education/research focus on fish and birds, the project will benefit western pond turtle, giant garter snake and legless lizard.

Our approach is to fund a highly qualified creative team of web designers, graphic artists and computer programmers to collect, interpret and input all student and professional baseline work into a lively hands-on science program with the best of what the internet can provide. This is a two year proposed process that provides for the orderly collection of data and the creative time necessary to maximize the web site production. The project will cost $54,000 and benefits significantly from in-kind data collection/student activities provided by the East Bay Regional Park District and computer hardware and connectivity provided by California State University at Hayward. The project has significant local support and is well coordinated with other Bay-Delta education programs.

III. TITLE PAGE

a. THE VIRTUAL SCIENCE CENTER and HANDS-ON LEARNING PROGRAMS

b. THE DELTA SCIENCE CENTER at Big Break
Stephen Barbata, Executive Director
86 Orchard Estates Drive
Walnut Creek, CA 94598
phone and fax: 925-947-1473

c. Nonprofit public benefit corporation
The East Bay Regional Park District is the fiscal agent for the DSC.

d. Tax identification number: 23-7011877

e. Participants are:

PROJECT OVERSIGHT
Stephen Barbata
Executive Director
The Delta Science Center
86 Orchard Estates Drive
Walnut Creek, CA 94598

WEB SITE DESIGNER
Joyce Hakansson
252 Clyde Drive
Walnut Creek, CA 94598

CONTENT AND GRAPHICS DEVELOPER
Linda Allison
506 Redhill Avenue
San Anselmo, CA 94960

WEB PROGRAMMER
Bill Purdy
True North Studios
True-North.com
330 Sir Francis Drake Blvd.
San Anselmo, CA 94960

IV. PROJECT DESCRIPTION

THE VIRTUAL SCIENCE CENTER AND HANDS-ON LEARNING PROGRAMS

The aim of this education program at The Delta Science Center is to link a lively hands-on science program with the best of what an internet program can provide. We invite students and teachers to Big Break to act as terrestrial and aquatic ecologists, entomologists, ornithologists and botanists. Here they investigate, observe, and record their findings on a database that resides at the Virtual Delta Science Center web site. The program is structured to give students and teachers the opportunity to learn science while linking the activities to the new California Science Standards. It also provides the opportunity to work with other Bay-Delta education groups seeking to standardize similar student data collection, recording and tabulation.

The project builds upon two years of privately funded, ongoing Delta Science Center (DSC) programs (Figure 3C). The programs are both student-based and professional collections of baseline data focused on Big Break Lagoon and its Marsh Creek watershed in the western Delta. Our existing collaboration of educators and scientists, as well as our physical location in East Contra Costa, offer unprecedented opportunities for monitoring Big Break as a microcosm of the larger Delta.

The funding request would provide for three web site consultants and project oversight for the development of the site software program. The data and its collection, as well as the web server, are provided by the DSC and California State University at Hayward, respectively.

The web site will be a collection point for the hands-on data recorded at the physical site. Students will feel pride of ownership when they see their information displayed on-line. They can see how their contributions fit into the larger context of the Big Break Baseline. Students and teachers will be able to compare what they found with data posted by professional scientists and other student visitors. Over time they will gain an understanding of how the physical and biological environment changes season to season, and year to year. The site also previews the kinds of activities available at Big Break. Visitors can see where they are going and what they will be doing before they arrive.

The web site will create a "virtual" science center before a physical facility exists. The electronic site can guide the development of DSC facilities and perhaps minimize the need for centralized buildings and structures that are costly to build, operate and create environmental impacts of their own. The site can also promote the advantages of the electronic-information age while allowing the public to still experience the physical environment of mud, weather, water, nicks and bruises. The Virtual Science Center will raise public awareness of the Delta landscape of tidal marsh, seasonal wetlands, riparian forest and shallow water habitat. It can raise the social, political, scientific, and economic realities impacting Big Break and by extension, the whole Bay-Delta

ecosystem. Lastly, the science center site can serve as a clearing house for Delta related activities and efforts by other agencies and organizations.

INFORMATION ON THE WEB SITE

The Big Break Baseline — an on-line database for collecting information from the "Student Baseline" monitoring program that is linked to the "Scientific Baseline" collected at the same sites by professionals. Fits the DSC education mission to foster mentoring across the spectrum from grade school through working professionals.

The Gallery — a place to post not only the results of the student baseline, but also their complementary work, including drawings, journal entries and Big Break observations.

The Delta Informer — a way to track CALFED projects and inform those projects by case stories on such topics as exotic plants and animals, endangered species, fish passage, point and non-point source pollution, Delta hydrology, etc. The DSC slant will include student activities focused on math, science and reading consistent with the new State Framework for Math and Science Curricula.

The Delta Calendar — a monthly guide to the natural history, calendaring such events as mating seasons, tides and flows, migrant bird sightings, fish activities, etc.

STUDENT BASELINE

Components of the DSC education effort will include the "Student Baseline" monitoring project, a classroom kit, a teacher information pack, and data collection forms for the following field activities:

SPINELESS WONDERS: Monitoring macro invertebrates
TESTING THE WATERS: Monitoring tidal marsh, creek and sewage effluent
BIRDS COUNT: Monitoring diversity, numbers, breeders and visitors
PLANTS MATTER: Creating maps of exotics and natives, expansions, contractions and changes
RARE BEASTS: Tracking evidence of rails, otters, beaver, pond turtles, muskrat and more...CENSUS

Spineless Wonders has been field tested by three fourth grade classes and is currently being assembled in final form. Figure 3D is the sample activity form. Created by a curriculum specialist in close consultation with teachers, the activities bundle key materials educators need to teach units in science, math, reading and social sciences. Spineless Wonders, like all of the activities posed, is also being formatted for high school students, adding depth and breadth to the activity and the student baseline-web site. Funding already secured from local industry, including PG&E, Tosco, and duPont, will finalize the activities we have described, and new funding from the Contra Costa County Office of Education promises the development of new activities throughout this proposed grant period. Needless to

say, the opportunity to develop the activities concurrent with the design and implementation of the web site would be highly advantageous to the DSC education effort and outreach.

East Bay Regional Park District naturalists at Black Diamond Mines in East Contra Costa are implementing our student baseline at Big Break. The program is free to the DSC, all schools, community groups and individuals throughout Alameda and Contra Costa County. Professors from California State University at Hayward and Los Medanos College, and scientists from Contra Costa Mosquito and Vector Control have provided pro-bono oversight to assure accuracy and protocol consistent with the expectations of a "student baseline." The DSC is also working with the San Francisco Estuary Project to refine the protocol and collection to meet a Bay-Delta-wide standard for consistent recording and tabulation.

PROFESSIONAL BASELINE

Much useful, but unfocused data has been collected for the DSC. Years of data from fish trawls, eckman grabs, plankton tows, bird counts, physical measurements and EIRs have created a mass of information. Without organization and design the information is random and non-communicative. In its current form it is useful for specific needs such as grants and permits. Collated and organized, this information could provide a picture of Big Break and its environs through time. Presenting and interpreting some of this information on-line can provide a great learning opportunity for the public, students, teachers, and decision makers of the western Delta. Information of this kind could be useful to students working to reconcile curricula with real life experiences, a need expressed by virtually all teachers kindergarten through graduate school.

If our two proposals to CALFED, "Marsh Creek Watershed Program" and the "Big Break Restoration, Education and Research Masterplan" are funded, teams of professionals including hydrologists, fisheries biologists, botanists and terrestrial ecologists will work with interpretive specialists and designers to analyze the Big Break watershed in depth (Figures 4A, 4B and 4C). A web site can bring this information to life and give the community a sense of ownership. The opportunity for several teams to work side by side would build in obvious efficiencies and maximize the web site products. Should the DSC fail to get these linked proposals funded, there remains more than sufficient data, past, present and future, to create the virtual science center via the web.

Data is available from the myriad of Delta interests that can demonstrate Big Break as a microcosm of the larger Delta.

The DSC library of Delta-related publications is housed at the Contra Costa Campus of California State University, Hayward. Over 75 catalogued references, authored by local, state, federal, special district, non and for-profit sources, can provide the contextual information needed to place Big Break within the larger Delta story.

Data is available from CALFED that documents the majority, if not all, of the CALFED endorsed projects in the Delta — their name, purpose and regular status updates. Our goal is to link Big Break to both the larger Delta and the multitude of diverse projects designed to improve the health of the Bay-Delta ecosystem.

Project criteria and considerations include the following:

This hands-on science program and virtual science center has become an important project for Joe Ovick, the Contra Costa County Superintendent of Schools. His staff is preparing a Cowell Foundation grant that not only helps the DSC develop "student baseline activities" but hires a master teacher for a one-year sabbatical to work with all county teachers and administrators for the program's full implementation, ownership, computer compatibility and compliance with new California Science Standards.

Project oversight is provided by the DSC Program Committee, a working group represented by California State University at Hayward, Contra Costa Community College District, all East County schools and high schools, the East Bay Regional Park District, and educators from Mt. Diablo Audubon, Delta Chapter of the Sierra Club and Contra Costa Mosquito and Vector Control District. The committee is also working with the San Francisco Estuary Institute on standardized data collection protocol, and Save the Bay Association for on-water activities through its "Canoes and Sloughs" program (subsidized by the DSC).

This project is dependent upon volunteerism and significant in-kind services and private donations. Oversight by the DSC Program Committee will provide in excess of *2,160 hours* over two years by university professors and department heads, college planners, curriculum specialists, interpreters and teachers K through 12. The in-kind component is a large investment by the Contra Costa Campus of California State University, Hayward. Mark Nickerson, Director of the Contra Costa Campus and a DSC Board member, has agreed to make available the CSUH web presence to the DSC for a minimum of two years. The CSUH web site will provide the DSC with a domain name, use of its web hardware, connectivity and troubleshooting personnel. We have agreed that once the site is up and running, the DSC will hire a webmaster to nurture the project and train participants and CSUH students to take over site maintenance through time. Last, but not least, the diligence of the Superintendent of County Schools promises foundation and private funding to continue the development of the DSC student baseline activities and their complete implementation and computerization within all county school districts.

With the full support of county schools, on-site instruction by the East Bay Regional Park District, and web support by CSUH, the DSC is left with a modest funding requirement to ensure ongoing implementation and maintenance of the web site. The two year web support by CSUH remains negotiable. CSUH is open to maintaining the hardware support beyond two years and/or will assist the DSC in establishing its own long-term site for the proprietary benefit of the science center.

V. COSTS AND SCHEDULE TO IMPLEMENT PROPOSED PROJECT

The Delta Science Center has assembled a truly stellar team of artists, designers and programmers for this project. Their collective track record promises a great project, built on time and within budget. All three consultants have significantly lowered their billing rates to accommodate our request for a great product at a reasonable cost.

The DSC has sufficient funding and proposed funding to complete this project if CALFED will help us design and develop the web site. Our one contingency plan is to replace a proposed grant through the Contra Costa County Office of Education. While we remain confident in this source, our contingency is to continue the cultivation of local industry for the production of student activities. The implementation costs are firmly financed by the East Bay Regional Park District and California State University at Hayward. This is a one-time request of CALFED that delivers a great product in perpetuity. The one outstanding cost the DSC must assume in the future is the employment/contract for a web master. California State University, Hayward, is committed to work with the DSC to solve long-term needs for a web master. University personnel, computer science students and partial outside help can make this a manageable DSC cost, solved as the project and its maintenance needs unfold. The Design Phase is scheduled to be accomplished in five months. The Implementation Phase is scheduled to be accomplished in seven months. The Refinements Phase is schedule to be accomplished in five months. Each phase has been spread over ample time frames so as to not rush the creative process but maximize the final product. The design team will meet at least once a month with the Project Oversight person to prepare written project accomplishments and updates. These reports will be used to prepare quarterly reports on tasks and deliverables in support of the amounts involved. Each quarterly report will contain a "deliverable" that graphically and narratively expresses the schedule and accomplishments.

No third party impacts have been identified for this project.

Tasks:

<u>Phase 1: Design</u>

1. Web Site Plan
   - determine content
   - determine design parameters
   - create plan for the interface and links

2. Design Database Collection Tool
   - determine how it will function and how data will be entered

<u>Phase 2: Implementation</u>

3. Content Creation
   - write pages

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- collect graphics
- review and edit

4. Programming
   - create the programming
   - create artwork
   - testing and debugging

5. Additions and Refinements
   - adding additional activity data collectors

Phase 3: Maintenance

Because the site is to function as a "Virtual Science Center" it needs to be fresh and lively to give visitors reasons to return. Frequent updating and adding to the existing site will be necessary. A web master will perform this function. Costs for this phase are not included in the above budget. A half-time professional would cost between $30,000 and $35,000 annually.

DSC WEBSITE DEVELOPMENT • COST BREAKDOWN PHASES 1 & 2

Project Costs Phase & Task	Direct Labor Hours	Direct Salary & Benefits	Overhead Labor (General Admin & Fee)	Service Contracts	Material and Acquisition Contracts	Miscellaneous and Other Direct Costs	Total
TASK 1	120	5,000	1,000	1,000		500	7,500
TASK 2	120	5,000	1,000			250	8,250
TASK 3	220	9,000	2,000			250	11,250
TASK 4	320	13,000	3,000			1,500	17,500
TASK 5	220	8,000	3,000			500	11,500
TOTALS	1,000	40,000	10,000	1,000		3,000	$54,000

VI. APPLICANT QUALIFICATIONS

The DSC has assembled a highly accomplished team to design and implement this project. The three principals have worked together in the past, a significant plus when designing a creative and complex project. They will work together as a team from beginning to end. Each consultant has reduced his/her billing rate for the opportunity to work on this exciting and worthwhile project.

Linda Allison/Content and Graphics Developer

Writes about how the world works. To date Allison has written and illustrated more than two dozen science books for kids and teachers. Since 1984 she has collaborated to produce more than 25 electronic learning products for clients like Sony, Simon and Schuster, Edmark, Texas Instruments, and Activision. She has developed curriculum for institutions that include the Exploratorium, Lawrence Hall of Science, Chicago Museum of Science and Industry, and The California Academy of Science.

Joyce Hakansson/Web Site Designer

In 1984, Joyce founded Theatrix, a children's multimedia publisher. At Theatrix, Joyce's team won the most Codie awards for an education/entertainment company in 1986. In the course of her career Joyce has managed the development of over 50 award-winning children's educational software projects of a prestigious list of leading computer software and hardware companies. Award-winning children's PC software titles included Millie's Math House and Bailey's Book House, with many more published by Broderbund Software, Inc., Davidson & Associates, Edmark, Inc., and Putnam New Media. Joyce also collaborated on games for Milton Bradley, the PICO electronic game for SEGA, and hand-held electronic learning toys for Texas Instruments, World book and Tiger & Bluebox.

Bill Purdy/Programmer

Is an award winning web designer and programmer. His work includes the development of a number of educational products. In addition his company, True-North Studios, has designed many web sites. His clients include Apple Computer, Exploratorium, George Lucas Educational Foundations, Hewlett-Packard, IBM KQED-TV, Macromedia, Sony, Texas Instruments and the Volunteer Center of Marin. His work can be viewed at True-North.com.

Stephen Barbata/Project Oversight

Stephen Barbata is the Executive Director of The Delta Science Center. He brings 25 years of experience in the design, building and funding of public institutions. In his roles as project manager, project director and executive director, he successfully developed The Coyote Point Museum for Environmental Education in San Mateo, California - *California Communities and Ecosystems*, the permanent natural sciences galleries of the Oakland Museum - *Wild California*, a major renovation of the North American Hall at the California Academy of Sciences - and the Lindsay Wildlife Museum in Walnut Creek, California, where he was also responsible for the successful completion of its $8 million capital campaign.

VII. COMPLIANCE

Attached are the forms consistent with The Delta Science Center application type. All the terms and conditions are agreeable and can be complied with by the applicant.

Agreement No. _____

Exhibit _____

STANDARD CLAUSES— SERVICE & CONSULTANT SERVICE CONTRACTS FOR $5,000 & OVER WITH NONPUBLIC ENTITIES

Workers' Compensation Clause. Contractor affirms that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self insurance in accordance with the provisions of that Code, and Contractor affirms that it will comply with such provisions before commencing the performance of the work under this contract.

Claims Dispute Clause. Any claim that Contractor may have regarding the performance of this agreement including, but not limited to, claims for additional compensation or extension of time, shall be submitted to the Director, Department of Water Resources, within thirty days of its accrual. State and Contractor shall then attempt to negotiate a resolution of such claim and process an amendment to this agreement to implement the terms of any such resolution.

National Labor Relations Board Clause. In accordance with Public Contract Code Section 10296, Contractor declares under penalty of perjury that no more than one final, unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two-year period because of Contractor's failure to comply with an order of a federal court which orders Contractor to comply with an order of the National Labor Relations Board.

Nondiscrimination Clause. During the performance of this contract, the recipient, contractor and its subcontractors shall not deny the contract's benefits to any person on the basis of religion, color, ethnic group identification, sex, age, physical or mental disability, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, mental disability, medical condition, marital status, age (over 40), or sex. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination. Contractor shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900 et seq.), the regulations promulgated thereunder (California Administrative Code, Title 2, Sections 7285.0 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Government Code Sections 11135 - 11139.5), and the regulations or standards adopted by the awarding State agency to implement such article. Contractor or recipient shall permit access by representatives of the Department of Fair Employment and Housing and the Awarding State agency upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours notice, to such of its books, records, accounts, other sources of information and its facilities as said Department or Agency shall require to ascertain compliance with this clause. Recipient, contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. The Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

Statement of Compliance. *The contractor's signature affixed hereon and dated shall constitute a certification under penalty of perjury* under the laws of the State of California that the Contractor has, unless exempted, complied with the nondiscrimination program *requirements of Government Code Section 12990 and Title 2, California Code of Regulations, Section 8103.*

***Performance* Evaluation.** Contractor's performance under this contract will be evaluated after completion. The evaluation will be filed with the Department of General Services.

Availability of Funds. Work to be performed under this contract is subject to availability of funds through the State's normal budget process.

Audit Clause. The contracting parties shall be subject to the examination and audit of the Auditor General for a period of three years after final payment under the contract. (Government Code Section 10532).

Reimbursement Clause. If applicable, travel and per diem expenses to be reimbursed under this contract shall be at the same rates the State provides for unrepresented employees in accordance with the provisions of Title 2, Chapter 3, of the California Code of Regulations. Contractor's designated headquarters for the purpose of computing such expenses shall be: _____.

86 Orchard Estates Drive
Walnut Creek, CA 94598

Drug-Free Workplace Certification. By signing this contract, the contractor or grantee hereby certifies under penalty of perjury under the laws of the State of California that the contractor or grantee will comply with the requirements of the Drug-Free Workplace Act of 1990 (Government Code Section 8350 et seq.) and will provide a drug free workplace by taking the following actions:

1. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a).

2. Establish a Drug-Free Awareness Program as required by Government Code Section 8355(b), to inform employees of all of the following:

(a) The dangers of drug abuse in the workplace,
(b) The person's or organization's policy of maintaining a drug-free workplace,
(c) Any available counseling, rehabilitation and employee assistance programs, and
(d) Penalties that may be imposed upon employees for drug abuse violations.

3. Provide, as required by Government Code Section 8355(c), that every employee who works on the proposed contract or grant:

(a) Will receive a copy of the company's drug-free policy statement, and
(b) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or grant.

Failure to comply with these requirements may result in suspension of payments under the contract or termination of the contract or both and the contractor or grantee may be ineligible for award of any future contracts if the department determines that any of the following has occurred: (1) the contractor or grantee has made false certification, or (2) violates the certification by failing to carry out the requirements as noted above.

Priority Hiring Considerations. For contracts in excess of $200,000, the contractor shall give priority consideration in filling vacancies in positions funded by the contract to qualified recipients of aid under Welfare and Institutions Code Section 11200. (Public Contract Code Section 10353).

The Delta Science Center understands and can comply with all standard clauses.

ITEM 7

NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME

THE DELTA SCIENCE CENTER At Big Break

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME

Stephen Barbata

DATE EXECUTED	EXECUTED IN THE COUNTY OF
June 30, 1998	Contra Costa

PROSPECTIVE CONTRACTOR'S SIGNATURE

Stephen Barbata

PROSPECTIVE CONTRACTOR'S TITLE

Executive Director

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

THE DELTA SCIENCE CENTER At Big Break

CERTIFICATE OF INSURANCE

This is to certify that the following described policy or policies have been issued to the insureds named below.

Bidder: and The State of California and all officers and employees thereof

With respect to the work performed under Contract # _____, Specification # _____.

for _____

_____.

Coverage	Company & Policy #	Term Mo.	Day	Year	Limits of Liability
A)		___ ___ ___ to ___ ___ ___			
B)		___ ___ ___ to ___ ___ ___			
C)		___ ___ ___ to ___ ___ ___			
D)		___ ___ ___ to ___ ___ ___			

It is further certified that:

The policy(ies) become(s) effective not later than the time of commencement of work under the aforementioned Contract.

The policy(ies) name(s), as additional insured with the bidder, the State and all officers and employees of the State.

The minimum limits of coverage of the aforementioned insureds are as follows:

Combined Single Limit ..... $ _____ (each occurrence)

*Workers Compensation not applicable on this form.

I-012697

ITEM 10

Agreement No. _____

Exhibit _____

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID FOR PUBLIC WORKS

STATE OF CALIFORNIA)
)ss
COUNTY OF Contra Costa)

Stephen Bacarta (name), being first duly sworn, deposes and says that he ~~or she~~ is Executive Director (position title) of The Delta Science Center at Big Break (the bidder).

the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

DATED: June 30, 1998

By Stephen Bacarta
(person signing for bidder)

DEBORAH J. REYNOLDS
Commission # 1165920
Notary Public - California
Contra Costa County
My Comm. Expires Jan 12, 2002

(Notarial Seal)

Subscribed and sworn to before me on
June 30, 1998

Deborah J. Reynolds
(Notary Public)

I —012698

I-012698

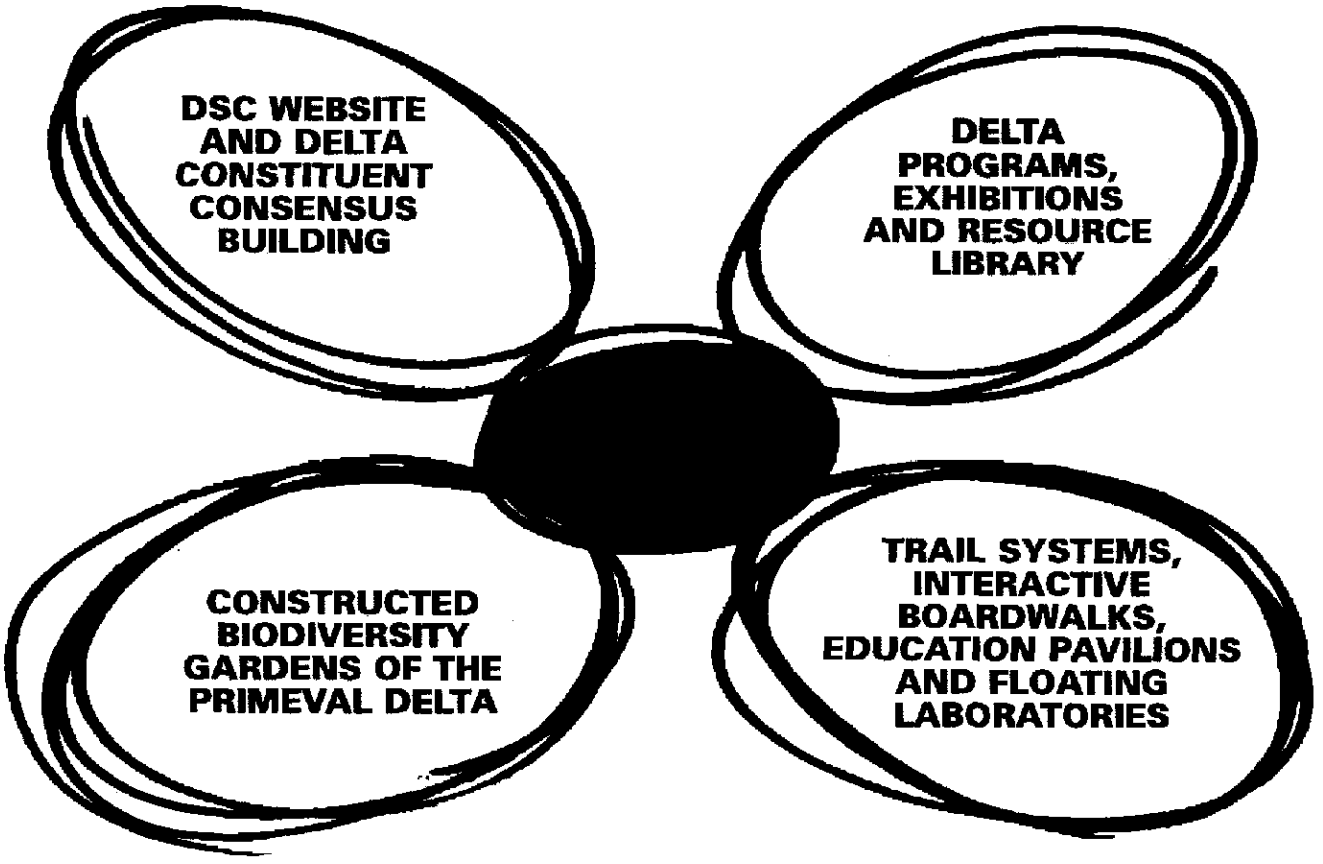


FIG 3c: EDUCATION POSSIBILITIES FOR BIG BREAK MASTER PLANNING

Discussion

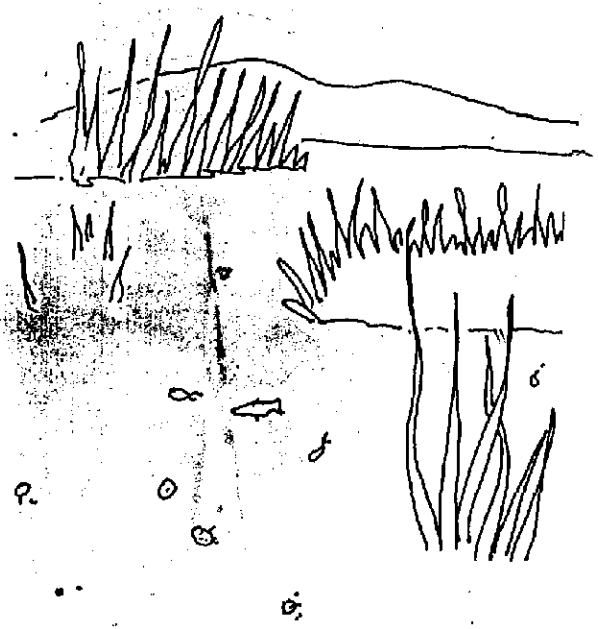
Bring your ice cube trays together as a group. Discuss what organisms everyone found. You might want to graph the results. Set the unusual critters in their own tray and pass them around for inspection.

Wrap up

If there is time, take a second sample and count.

Return the creatures to the water where you found them.

Make sure to fill out all the slots on your data sheets.



THE DELTA SCIENCE CENTER
AT BIG BREAK

Sample Activity

SPINELESS WONDERS

Monitoring Macro Invertebrates

Capture shallow water life with a net. Observe and count the amazing diversity of life forms then record your findings. The data you collect will become part of the Big Break Baseline Data Record.

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OBJECTIVE

Students will learn a sampling method for monitoring macro invertebrates, then record and compare their findings. Kids will be introduced to the idea that the presence of sensitive "water bugs" is an indicator of water quality.

OVERVIEW

Your data will go into the Big Break Baseline Study and help create a picture about the Big Break ecosystem. Eventually your information may help make decisions about how to use and manage this wetland habitat.

EQUIPMENT: Each group will need

- ▫ guide to shallow water life
- ▫ white bottomed tray
- ▫ sweep net.
- ▫ magnifier
- ▫ bug boxes
- ▫ white plastic ice cube tray
- ▫ data sheet
- ▫ pencil
- ▫ thermometer

TIME & PLACE

One hour/ a shallow freshwater habitat

SETTING & NUMBER

Small groups of two to four

PREPARATION

Dress for wading, expect to get a little muddy. Wear shoes you don't mind get wet. Rubber boots are best.

TIPS

During testing keep your hands away from your eyes and mouth.
Wash your hands well with soap and water after monitoring.

CHALLENGE C

Check for presence of indicator species.

1. Put a check beside each species you found.

2. What do you think your sample says about water quality?

SENSITIVE (to water pollution)	
_____	caddisfly larvae
_____	hellgrammite
_____	mayfly nymphs
_____	gilled snails
_____	riffle beetle adult
_____	stonefly nymphs
_____	water penny larvae
SOMEWHAT SENSITIVE	
_____	beetle larvae
_____	clams
_____	crane fly larvae
_____	crayfish
_____	damselfly nymphs
_____	dragonfly nymphs
_____	scuds
_____	sowbugs
_____	fishfly larvae
_____	alderfly larvae
_____	atherix
TOLERANT	
_____	aquatic worms
_____	blackfly larvae
_____	leeches
_____	midge larvae
_____	pouch(& other) snails

HOW TO

1. Divide into teams. Gather your team's equipment.

2. Pick your sampling spot.

Fill out the Data Sheet

3. Record your team members, date, time, and conditions.

4. Check thermometer for air temperature. Record.

5. Take the water temperature. Record.

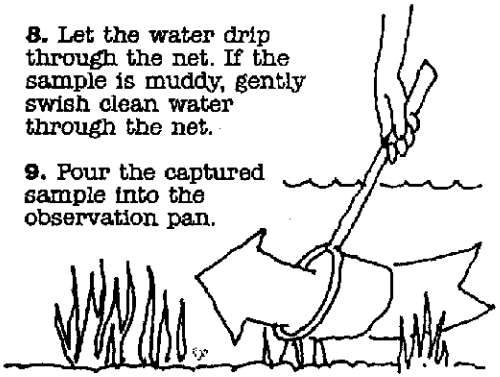
Take a sweep net sample

6. Put your tray on a flat spot and fill it with an inch of water.

7. Take a sweep net sample: Sweep the net along the bottom, through weeds near the bank. Do this twice.

8. Let the water drip through the net. If the sample is muddy, gently swish clean water through the net.

9. Pour the captured sample into the observation pan.

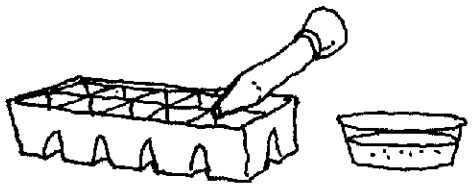


Sort your Sample

10. Look closely. Some of these macro invertebrates are small. Look for different body types and movement patterns. How many different kinds do you see?

11. Capture each type of different animal with an eyedropper or spoon. Transfer it into in a different compartment of the ice cube tray. (Be gentle. Cover the animals with water so they don't dry out.)

12. Finish sorting, then record the number of different kinds of animals you found.



DATA SHEET:
Macroinvertebrate Monitoring

_____

Date

_____

Time

_____

Observers (team members)

_____

Location: Where are you sampling?

_____

Temperature: Air

_____

Temperature: Water

_____

Weather Today

_____

What would you call this body of water?
Marsh? Pond? Stream?

_____

CHALLENGE A:

Find as many different kinds of organisms as you can from your sample sweep. Record the number:

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CHALLENGE B

Identify the organisms.

1.. Try identifying each kind of organism using a guide. Write their names:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

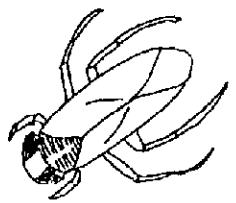
2. If you can't identify an organism, draw it and give it a descriptive name.

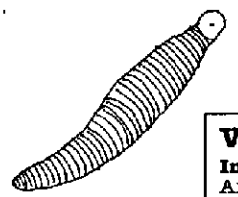
BACKGROUND

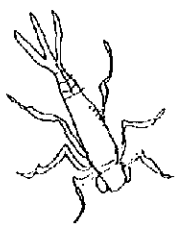
A surprising number of life forms live in shallow waters. These small organisms appear in an amazing diversity of shapes and sizes. Most people don't even know that they are there, while even fewer folks know that these tiny life forms can tell us quite a lot about water quality.

The cleanest water has the greatest diversity of "water bugs" or macro invertebrate species. Pollution sensitive species disappear from a body of water as the amount of pollution increases. A classic test of stream water quality relies on counting "indicator species."

These small invertebrates are important for another reason. They form the basic links in a wetland food chain. Small fish feed on these tiny animals and plants, which in turn feed larger fish, mammals and birds. These tiny critters may be spineless, but they are the backbone of the wetland food chain...one of the most productive habitats on earth.







VOCABULARY

Invertebrates: Animals without backbones.

Macro Invertebrates: Invertebrates large enough to see without magnification.

Organism: A living thing

Indicator Species
Habitat
Food Chain

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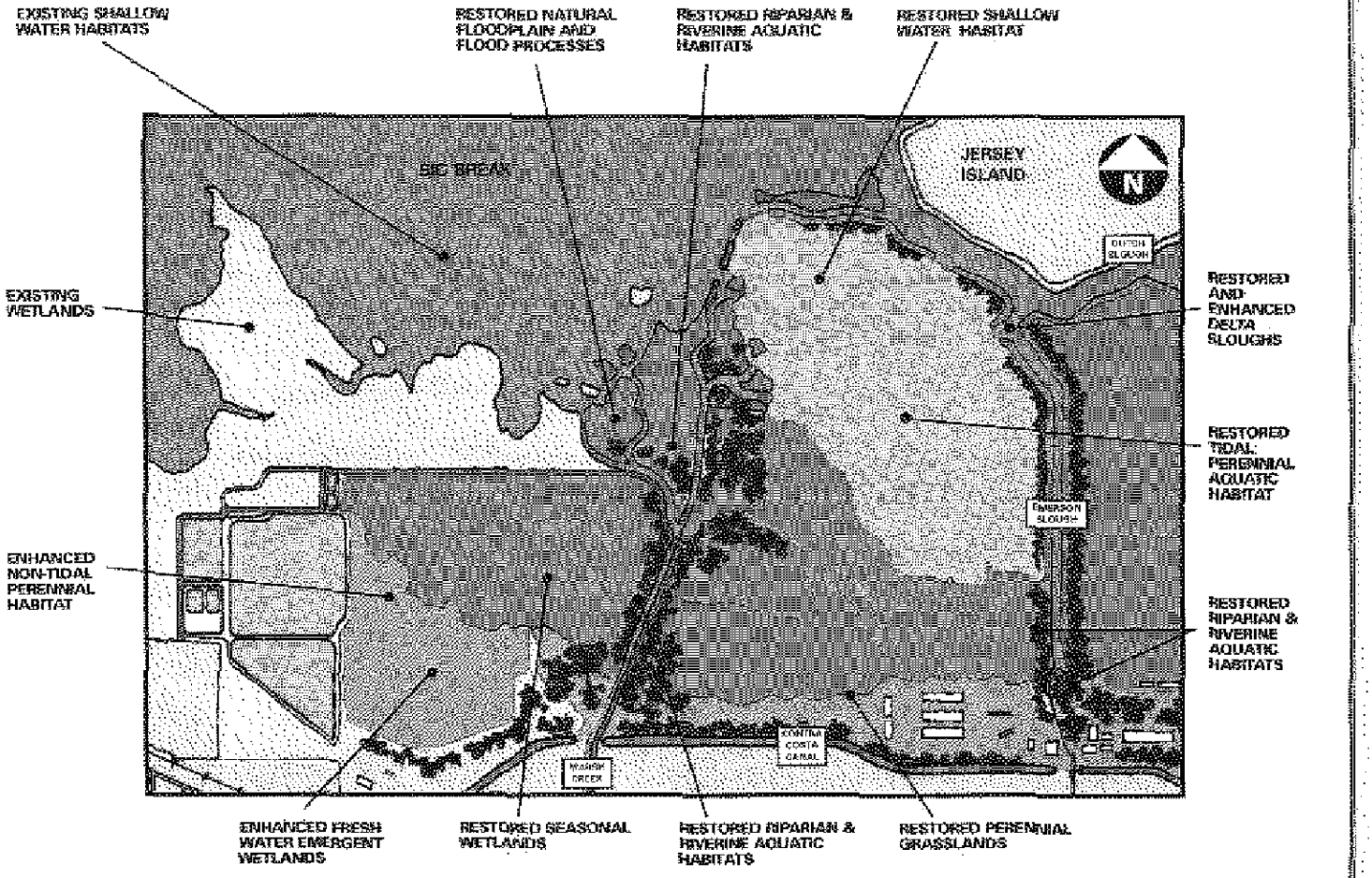

FIG 4a: POTENTIAL BIG BREAK TIDAL MARSH RESTORATION COMPONENTS

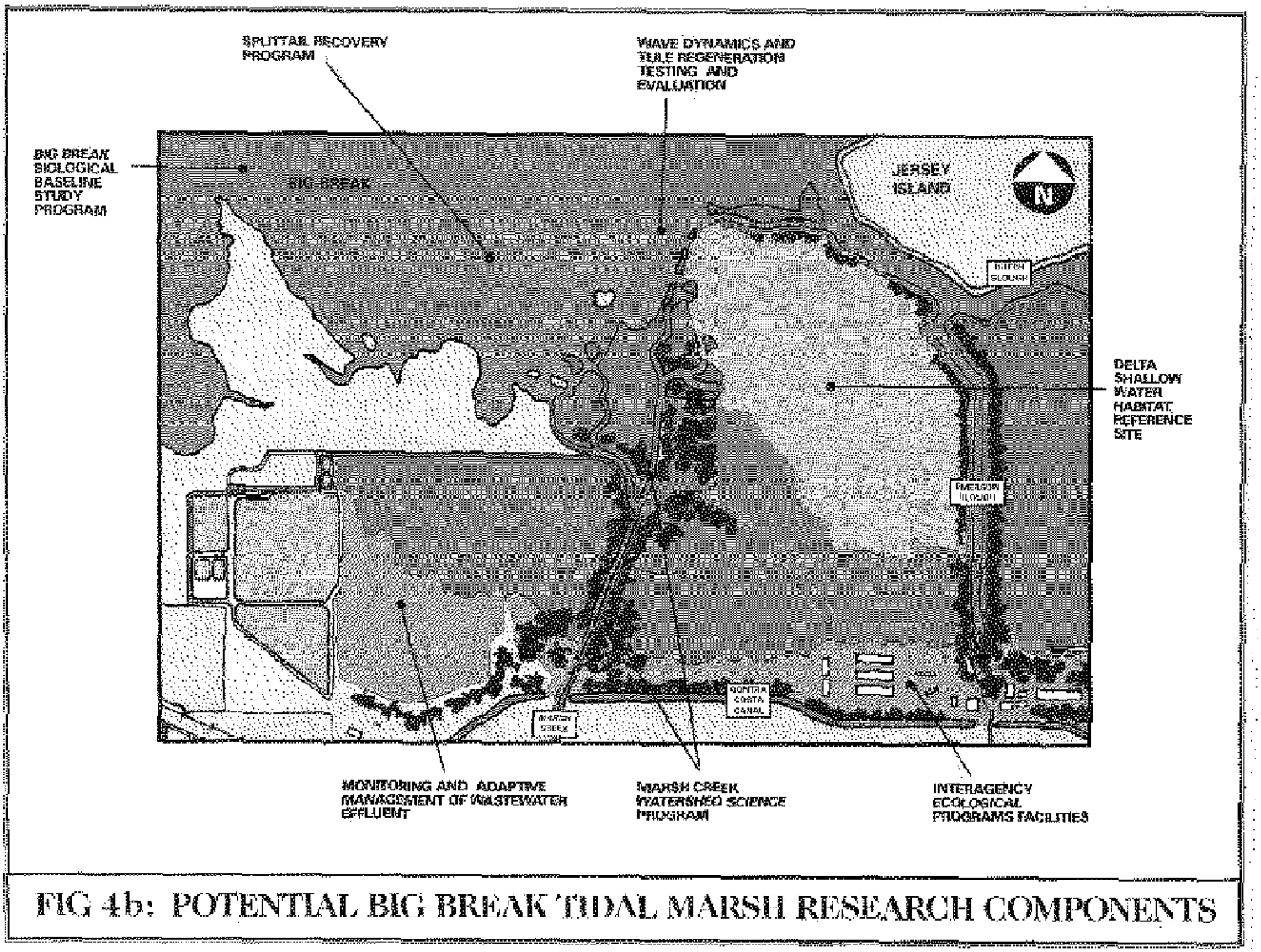

FIG 4b: POTENTIAL BIG BREAK TIDAL MARSH RESEARCH COMPONENTS

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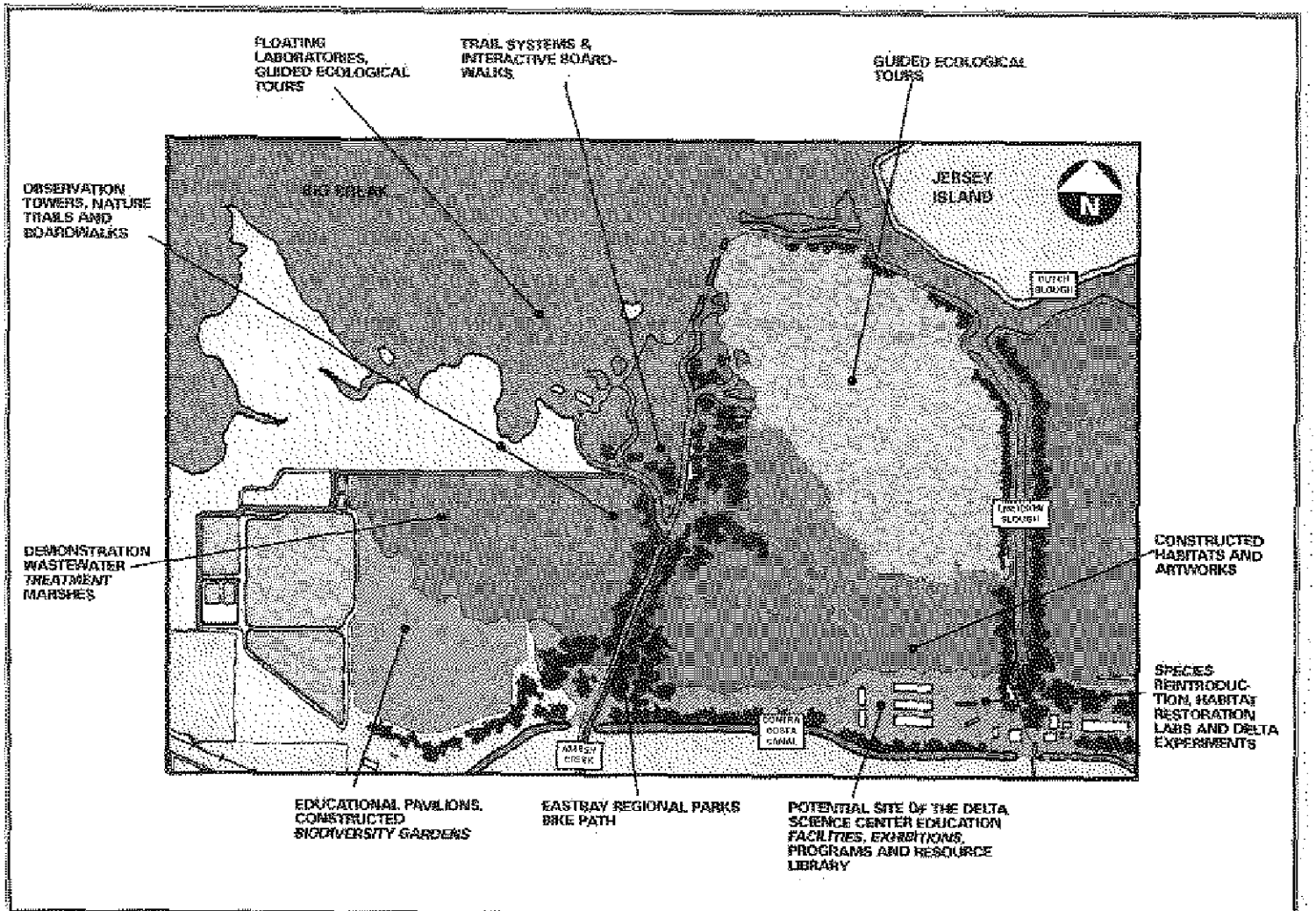

FIG 4c: POTENTIAL BIG BREAK EDUCATIONAL COMPONENTS